UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, Ca. 94105

AR0043

2 6 DEC 1985

Ms. Jane Bray
Upper San Gabriel Valley Municipal Water District
11310 East Valley Boulevard
El Monte, California 91731

Dear Ms. Bray:

I have enclosed for your information the laboratory results from EPA's San Gabriel Valley Supplemental Sampling Program (SSP). I request that you please keep this data confidential, as EPA has not yet notified the well owners of the results of the sampling. EPA is providing the data to the RWQCB, California DOHS/Toxics Division, California DOHS/Sanitary Engineering Branch, Los Angeles County Department of Health Services, and the Upper San Gabriel Valley Municipal Water District as a courtesy prior to the mailing of notices to the well owners whose wells were sampled.

Seventy existing wells in the San Gabriel Valley were sampled between February and May 1985 by EPA's contractor, CH_2M Hill. The chemical analyses were performed by private laboratories as part of EPA's national contract laboratory program. The raw data reported by the laboratories has undergone a quality assurance review by EPA chemists. The enclosed tables list the analyses that were performed for each sample and the results of the different analyses.

I would like to highlight a particularly significant finding of our sampling program -- the detection of a previously unidentified contaminant in the ground water of the San Gabriel Valley, perchlorate ion. Fourteen wells in the Azusa/Baldwin Park area were sampled for the presence of perchlorate ion as part of EPA's source sampling portion of the SSP. EPA had previously identified an industrial facility in Azusa as a potential source of ground water contamination. This facility was previously involved in the development and testing of rocket and jet engines. In an attempt to identify waste disposal by this facility as a source of ground water contamination, 14 wells surrounding the facility were sampled for several compounds that are associated with rocket engine testing, such as perchlorate ion, aniline, and xylidene. Perchlorate ion (ClO_4^-) was included because this facility used both ammonium perchlorate and potassium perchlorate as oxidizers in its solid rocket fuels. Of the special compounds tested for, only perchlorate ion was detected in the water samples.

The 14 samples were collected on 6 different days. For each daily batch of samples, one duplicate sample was collected and one field blank was included in the batch. The field blanks were prepared in CH_2M Hill's laboratory and then placed in the shipping containers used for the environmental samples. The duplicates and blanks were not identified to laboratory personnel performing the analyses.

The perchlorate analyses were performed by CAL Analytical Laboratory in Sacramento, California using a proprietary colorimetric analytical method. I have enclosed a separate table that summarizes the results of the perchlorate analyses, along with copies of the quality assurance review reports for the perchlorate analyses. The limits of detection claimed by the laboratory were 0.02 mg/l or 0.05 mg/l, depending on which batch of samples is considered. The laboratory reported contamination in all of the environmental samples, ranging from 0.11 mg/l to 2.6 mg/l. However, a major quality assurance problem was identified in that contamination was detected in 5 of the 6 field blanks. The source of this contamination has not been identified. For one batch of samples, the contamination level in the blank was roughly equivalent to the highest contaminant level in the environmental samples. For this reason, EPA quality assurance data reviewers rejected all of the results from this batch as invalid. In three other batches, several environmental samples were contaminated at levels either below or slightly higher than that of the field blank; the EPA data reviewer reported the results of these samples as probably 'undetected contamination' with the level of detection identified as the level of contamination reported by the lab.

Despite the quality assurance problems described above, it appears clear that perchlorate contamination does exist in the ground water. In one batch, the field blank was uncontaminated, but all three environmental samples were contaminated at levels ranging from 0.38 mg/l to 0.81 mg/l. In several of the other batches, the perchlorate concentrations in five wells were reported at levels much higher than the low level contamination found in the field blanks. These concentrations ranged from 1.0 mg/l to 2.6 mg/l. Therefore, based on this sampling episode, it is clear that some perchlorate contamination exists; however, the actual contaminant concentrations reported for several wells may be in question.

Since perchlorate contamination of drinking water wells was detected, a major issue raised is whether there are any potential health effects associated with drinking water contaminated with perchlorate ion. My staff has been unable to obtain any definitive information regarding the health effects of ingesting perchlorate ion. Therefore, EPA has asked the Center for Disease Control for assistance in determining any potential health effects that may be associated with perchlorate contamination of drinking water. A second issue that must be confronted concerns the validity of the data. It is clear that a resampling of the 14 wells is

necessary due to the quality assurance problems identified during the first sampling episode. In addition, other nearby wells should probably be sampled for perchlorate contamination, as well. A third issue that must be addressed is the notification of the public of these new findings. Given the nature of the findings and the recent controversy in the San Gabriel Valley over public notification of 1,1-dichloroethylene contamination, the release of these sampling results may be an extremely sensitive issue.

To enable EPA and the responsible state and local agencies to develop a coherent and coordinated strategy for dealing with the issues raised by the findings of EPA's sampling program, a meeting has been scheduled for 10:00 A.M., January 9, 1986, at your offices in El Monte, California. With this letter I would like to confirm this meeting time at your offices, as well as your participation. Each of the agencies that has received the sampling data has been invited to attend.

Again, I request that the results of EPA's sampling program remain confidential until a strategy to deal with the issue raised by EPA's findings is developed. If you have any questions concerning EPA's sampling program or the scheduled meeting, please contact Neil Ziemba of my staff at (415) 974-7520.

Sincerely yours,

for Keith A. Takata
Chief, Superfund Programs Branch

Enclosures

cc: T. Bailey, California DOHS/Toxics Division, Sacramento
A. Bellomo, California DOHS/Toxics Division, Los Angeles
P. Rogers, California DOHS/Sanitary Engineering, Sacramento
G. Yamamoto, California DOHS/Sanitary Engineering, Los Angeles
R. Rinaldi, Los Angeles County Department of Health Services
H. Yacoub, Los Angeles Regional Water Quality Control Board

KEY TO IDENTIFICATION OF WELLS SAMPLED FOR PERCHLORATE ION
AS IDENTIFIED IN DATA QUALITY ASSURANCE REVIEW REPORTS

SAMPLE NO.	WELL OWNER	WELL OWNER DESIGNATION	RECORDATION NUMBER
1528Y-5	Valley County Water District	N. Maine E.	1900027
1528Y 6	Valley County Water District	Morada	1900029
1528Y-7	Duplicate of 1528Y-5		
1528Y-8	Field Blank		
1528Y-15	City of Azusa	#5	1902537
1528Y-16	Azusa Valley Water Company	#4	1902115
1528Y-18	Azusa Valley Water Company	#7	1902425
1528Y-19	Duplicate of 1528Y-16		
1528Y-20	Field Blank		
1528Y-26	City of Glendora	#3G	1901525
1528Y-27	City of Glendora	#7G	1900831
1528Y-28	Duplicate of 1528Y-26		
1528Y-29	Field Blank		
1528Y-30	Azusa Valley Water Company	#6	1902117
1629Y-7	Miller Brewing	#2	8000076
1629Y-8	City of Azusa	#4	1902536
1629Y-9	Transit Mix	#2	1900038
1629Y-10	County of Los Angeles	#1SF	8000070
1629Y-11	Duplicate of 1629Y-7		
1629Y-12	Field Blank		
1629Y-16	Covina Irrigating Company	Contract	1900881
1629Y-17	Duplicate of 1629Y-16		
1629Y-18	Field Blank		
1629Y-22	Valley County Water District	Lante	8000060
1629Y-23	Duplicate of 1629Y-22		
1629Y-24	Field Blank		

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: JUL 17 1985

SUBJECT: Review of Analytical Data

FROM: Harold Takenaka, Chief
Laboratory Support Section, Environmental Services Branch, OPM (P-3-1)

TO: Paula Bisson, Acting Chief
State Programs Section, Superfund Programs Branch, TWMD (T-4-1)

Attached are comments resulting from Region 9 review of the following analytical data:

SITE: San Gabriel
CASE/SAS NO.: 4188/1629Y

LABORATORY: CAL
ANALYSIS: SAS Inorganics

SAMPLE NO.: 1629Y-7 through 1629Y-12; 1629Y-16 through 1629-18; 1629Y-22 through 1629Y-24
COLLECTION DATE: 4/16/85; 4/17/85; 4/23/85

REVIEWER: T. Deihl
TELEPHONE NUMBER: 415/974-8379 (Commerical)
454-8379 (FTS)

If there are any questions, please contact the reviewer.

Attachment

cc: Kathleen Shimmin, (T-3)
Duane Geuder, QA Officer, EPA-HQ (WH-548A)
Data Audit Team (LEMSCO), EMSL-LV

REPORT ON THE EVALUATION OF THE

Case 1629Y (4188)

San Gabriel SAS Inorganics

DATA

by

DATA MANAGEMENT TEAM

LABORATORY SUPPORT SECTION

ENVIRONMENTAL SERVICES BRANCH

U.S. ENVIRONMENTAL PROTECTION AGENCY
215 Fremont Street
San Francisco, California 94105

Date July 1, 1985

Reviewer Trudy L. Diehl
FTS Tel. No. 454-8379
Commercial Tel. 415/974-8379

Case Number: 4188/1629Y
Site: San Gabriel
Laboratory: CAL
Samples: 1629Y-7 through 1629Y-12; 1629Y-16 through 1629Y-18; 1629Y-22 through 1629Y-24
Matrix: Water

SAS Inorganics
12 Samples

Validity

The perchlorate results reported for samples 1629Y-12, 1629Y-18 and 1629Y-24 are invalid.

Perchlorate results for 1629Y-7, 1629Y-9, 1629Y-10, 1629Y-11, 1629Y-22 and 1629Y-23 are valid for limited purposes.

Perchlorate results for 1629Y-8, 1629Y-16 and 1629Y-17 are valid.

Results for selenuim and hydrazine are valid.

General Comments

Data were due from CAL 5/17/85; 5/18/85 and 5/24/85.
Data were received for CAL 6/5/85.

The laboratory blanks were free of contamination.

The field blanks were reported to contain perchlorate ion. Due to apparent field contamination, the reported detection limits for the samples are estimated.

Case No. 7188/1629Y
Site San Gabriel
Lab CAL
Type of Analysis SAS Inorganics
Units of Concentration ppm
Date Samples Collected 4/16/85, 4/18/85; 4/23/85
Date Samples Rec'd at Lab 4/17/85; 4/18/85; 4/24/85
Date Data Package Rec'd at Region 9 6/5/85
Date of this Report 6/28/85
Reviewer J. Dail

MAXIMUM HOLDING TIMES, ORGANICS	Contract
Volatile Organics, Water	7 days
Volatile Organics, Soil	10 days
ABN Extraction, Water	5 days
ABN Extraction, Soil	10 days
ABN Analysis	40 days
Pesticide Extraction, Water	5 days
Pesticide Extraction, Soil	10 days
Pesticide Analysis	40 days

Sample #	Perchlorate Ion	Validity
1629Y-7	.15UJ	P
1629Y-8	2.1	V
1629Y-9	.45UJ	P
1629Y-10	.26UJ	P
1629Y-11	.11UJ	P
1629Y-12	R	N
1629Y-16	2.6	V
1629Y-17	2.2	V
1629Y-18	R	N
1629Y-22	.49UJ	P
1629Y-23	.49UJ	P
1629Y-24	R	N

U -- limit of detection
J -- estimated
R -- rejected

Actual	MAXIMUM HOLDING TIMES, INORGANICS	Contract	Actual
days	Cyanide	14 days	days
days	Mercury	30 days	days
days	Other Metals	6 mos.	22 days
days			
days			
days			
days			
days			

VALIDITY OF DATA

V - Indicates value reported is considered valid for all purposes.
X - Indicates value reported is considered invalid for all purposes
P - Indicates value reported is considered usable for limited purposes.

Case Number: 4188/1629Y
Site: San Gabriel
Labratory: CAL
Matrix: Water

	Selenium (ppb)	Hydrazine (ppm)	Perchlorate Ion (ppm)
1629Y-7	5U	1U	0.15UJ
1629Y-8	5U	1U	2.1
1629Y-9	5U	1U	0.45UJ
1629Y-10	5U	1U	0.26UJ
1629Y-11	5U	1U	0.11UJ
1629Y-12	5U	1U	R
1629Y-16	5U	1U	2.6
1629Y-17	5U	1U	2.2
1629Y-18	5U	1U	R
1629Y-22	5U	1U	0.49UJ
1629Y-23	5U	1U	0.49UJ
1629Y-24	5U	1U	R

U = analyzed for but not detected
J = estimated value
R = analysis rejected

FORM II

QC Report No.:1629Y

INITIAL AND CONTINUING CALIBRATION VERIFICATION 3

LAB NAME: Cal Labs CASE NO.: 1629Y

SOW No.: 784

DATE: 5/9/85 Units: ug/l

COMPOUNDS METALS:	INIT CALI TRUE	INIT CALI FOUND	INIT CALI % R	CONT CALI TRUE	CONT CALI FOUND	CONT CALI % R	CONT CALI FOUND	CONT CALI % R
1. ALUMINUM.....								
2. ANTIMONY.....								
3. ARSENIC (P)..								
3. ARSENIC (F)..								
4. BARIUM.....								
5. BERYLLIUM....								
6. CADMIUM (P)..								
7. CALCIUM.....								
8. CHROMIUM.....								
9. COBALT.....								
10. COPPER.....								
11. IRON.....								
12. LEAD (P).....								
12. LEAD (F).....								
13. MAGNESIUM....								
14. MANGANESE....								
15. MERCURY.....								
16. NICKEL.....								
17. POTASSIUM....								
18. SELENIUM.....20		19.8	99	20	18.5	(93	18.9	(95
19. SILVER.....								
20. SODIUM.....								
21. THALLIUM.....								
22. TIN.....								
23. VANADIUM.....								
24. ZINC.....								
OTHER:								
CYANIDE.....								

1 Initial Calibration Source: EPA,SPEX,others

2 Continuing Calibration Source: EPA,SPEX,others

3 Control Limits: Mercury and Tin 80-120; All other compounds 90-110

4 Indicate Analytical Method Used: P-ICP/Flame AA; F-Furnace

FORM II

QC Report No.:1629Y

INITIAL AND CONTINUING CALIBRATION VERIFICATION 3

LAB NAME: Cal Labs CASE NO.: 1629Y

SOW No.: 784

DATE: 5/9/85 Units: ug/l

COMPOUNDS METALS:	INIT CALI TRUE	INIT CALI FOUND	INIT CALI % R	CONT CALI TRUE	CONT CALI FOUND	CONT CALI % R	CONT CALI FOUND	CONT CALI % R
1. ALUMINUM.....								
2. ANTIMONY.....								
3. ARSENIC (P)..								
3. ARSENIC (F)..								
4. BARIUM.....								
5. BERYLLIUM....								
6. CADMIUM (P)..								
7. CALCIUM.....								
8. CHROMIUM.....								
9. COBALT.....								
10. COPPER.....								
11. IRON.....								
12. LEAD (P).....								
12. LEAD (F).....								
13. MAGNESIUM....								
14. MANGANESE....								
15. MERCURY.....								
16. NICKEL.....								
17. POTASSIUM....								
18. SELENIUM.....				20	18.2	91	18.5	93
19. SILVER.....								
20. SODIUM.....								
21. THALLIUM.....								
22. TIN.....								
23. VANADIUM.....								
24. ZINC.....								
OTHER:								
CYANIDE.....								

1 Initial Calibration Source: EPA,SPEX,others
2 Continuing Calibration Source: EPA,SPEX,others
3 Control Limits: Mercury and Tin 80-120; All other compounds 90-110
4 Indicate Analytical Method Used: P-ICP/Flame AA; F-Furnace

FORM II

QC Report No.:1629Y

INITIAL AND CONTINUING CALIBRATION VERIFICATION 3

LAB NAME: Cal Labs CASE NO.: 1629Y

SOW No.: 784

DATE: 5/20/85 Units: ug/l

COMPOUNDS METALS:	INIT CALI TRUE	INIT CALI FOUND	INIT CALI % R	CONT CALI TRUE	CONT CALI FOUND	CONT CALI % R	CONT CALI FOUND	CONT CALI % R
1. ALUMINUM.....								
2. ANTIMONY.....								
3. ARSENIC (P)..								
3. ARSENIC (F)..								
4. BARIUM.....								
5. BERYLLIUM....								
6. CADMIUM (P)..								
7. CALCIUM.....								
8. CHROMIUM.....								
9. COBALT.....								
10. COPPER.....								
11. IRON.....								
12. LEAD (P).....								
12. LEAD (F).....								
13. MAGNESIUM....								
14. MANGANESE....								
15. MERCURY.....								
16. NICKEL.....								
17. POTASSIUM....								
18. SELENIUM.....								
19. SILVER.....								
20. SODIUM.....								
21. THALLIUM.....								
22. TIN.....								
23. VANADIUM.....								
24. ZINC.....								
OTHER:								
PERCHLORATE.....	60	56	93	60	58	97	58	97

1 Initial Calibration Source: EPA,SPEX,others

2 Continuing Calibration Source: EPA,SPEX,others

3 Control Limits: Mercury and Tin 80-120; All other compounds 90-110

4 Indicate Analytical Method Used: P-ICP/Flame AA; F-Furnace

FORM II

QC Report No.:1629Y

INITIAL AND CONTINUING CALIBRATION VERIFICATION 3

LAB NAME: Cal Labs CASE NO.: 1629Y

SOW No.: 784

DATE: 5/10/85 Units: ug/l

COMPOUNDS METALS:	INIT CALI TRUE	INIT CALI FOUND	INIT CALI % R	CONT CALI TRUE	CONT CALI FOUND	CONT CALI % R	CONT CALI FOUND	CONT CALI % R
1. ALUMINUM.....								
2. ANTIMONY.....								
3. ARSENIC (P)..								
3. ARSENIC (F)..								
4. BARIUM.....								
5. BERYLLIUM....								
6. CADMIUM (P)..								
7. CALCIUM.....								
8. CHROMIUM.....								
9. COBALT.....								
10. COPPER.....								
11. IRON.....								
12. LEAD (P).....								
12. LEAD (F).....								
13. MAGNESIUM....								
14. MANGANESE....								
15. MERCURY.....								
16. NICKEL.....								
17. POTASSIUM....								
18. SELENIUM.....								
19. SILVER.....								
20. SODIUM.....								
21. THALLIUM.....								
22. TIN.....								
23. VANADIUM.....								
24. ZINC.....								
OTHER:								
HYDRAZINE.....	18000	17500	97	18000	17700	98		

1 Initial Calibration Source: EPA,SPEX,others

2 Continuing Calibration Source: EPA,SPEX,others

3 Control Limits: Mercury and Tin 80-120; All other compounds 90-110

4 Indicate Analytical Method Used: P-ICP/Flame AA; F-Furnace

Form III

Q. C. Report No. 1629Y

BLANKS

LAB NAME CAL LABS CASE NO. 1629Y

DATE 5-9-85 UNITS ug/L

Matrix LW

Preparation Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 1	2	3	4	Preparation Blank 1	2
Metals:							
1. Aluminum							
2. Antimony							
3. Arsenic							
4. Barium							
5. Beryllium							
6. Cadmium							
7. Calcium							
8. Chromium							
9. Cobalt							
10. Copper							
11. Iron							
12. Lead							
13. Magnesium							
14. Manganese							
15. Mercury							
16. Nickel							
17. Potassium							
18. Selenium	<5	<5	<5	<5	<5	<4.2	
19. Silver							
20. Sodium							
21. Thallium							
22. Tin							
23. Vanadium							
24. Zinc							
Other:							
Cyanide							

Form III

Q. C. Report No. 1629V

BLANKS

LAB NAME CAL LABS CASE NO. 1629V

DATE 5-10-85 UNITS ug/L

Matrix LW

Preparation Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 1	2	3	4	Preparation Blank 1	2
Metals:							
1. Aluminum							
2. Antimony							
3. Arsenic							
4. Barium							
5. Beryllium							
6. Cadmium							
7. Calcium							
8. Chromium							
9. Cobalt							
10. Copper							
11. Iron							
12. Lead							
13. Magnesium							
14. Manganese							
15. Mercury							
16. Nickel							
17. Potassium							
18. Selenium							
19. Silver							
20. Sodium							
21. Thallium							
22. Tin							
23. Vanadium							
24. Zinc							
Other:							
Hydrazine	L1000	L1000					
Cyanide							

Form III

Q. C. Report No. 16294

BLANKS

LAB NAME CAL LABS CASE NO. 16294

DATE 5-20-85 UNITS ug/l

Matrix LW

Preparation Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 1	2	3	4	Preparation Blank 1	2
Metals:							
1. Aluminum							
2. Antimony							
3. Arsenic							
4. Barium							
5. Beryllium							
6. Cadmium							
7. Calcium							
8. Chromium							
9. Cobalt							
10. Copper							
11. Iron							
12. Lead							
13. Magnesium							
14. Manganese							
15. Mercury							
16. Nickel							
17. Potassium							
18. Selenium							
19. Silver							
20. Sodium							
21. Thallium							
22. Tin							
23. Vanadium							
24. Zinc							
Other:							
Perchlorate	<50	<50					
Cyanide							

FORM V
QC REPT NUMBER: 1629Y
SPIKE SAMPLE RECOVERY

LAB NAME: CALIF. ANAL. LABS.

CASE NO.: 1629Y
EPA SAMPLE #:1629Y-7
LAB SAMPLE #:S6023

DATE: 6/4/85
MATRIX: LOW WATER

UNITS: UG/L

COMPOUNDS METALS:	CONTROL LIMIT % R	SPIKED SAMPLE RESULT (SSR)	SAMPLE RESULT (SR)	SPIKED ADDED (SA)	% R
ELEMENTS..METHOD					
1. ALUMINIUM...P	75 TO 125				
2. ANTIMONY....P	75 TO 125				
3. ARSENIC.....P	75 TO 125				
4. BARIUM.....P	75 TO 125				
5. BERYLLIUM...P	75 TO 125				
6. CADMIUM.....P	75 TO 125				
7. CALCIUM.....P	75 TO 125				
8. CHROMIUM....P	75 TO 125				
9. COBALT.....P	75 TO 125				
10.COPPER.....P	75 TO 125				
11.IRON.....P	75 TO 125				
12.LEAD.....P	75 TO 125				
13.MAGNESIUM...P	75 TO 125				
14.MANGANESE...P	75 TO 125				
15.MERCURY....CV	75 TO 125				
16.NICKEL.....P	75 TO 125				
17.POTASSIUM...P	75 TO 125				
18.SELENIUM....P	75 TO 125	7.5	<5	10	75
19.SILVER.....P	75 TO 125				
20.SODIUM.....P	75 TO 125				
21.THALLIUM....F	75 TO 125				
22.TIN.....P	75 TO 125				
23.VANADIUM....P	75 TO 125				
24.ZINC.....P	75 TO 125				
25.CYANIDE.....C	75 TO 125				
HYDRAZINE		6700	<1	6000	112
PERCHLORATE		510	150	400	90

COMMENTS:

FORM VI
QC REPORT NUMBER: 1629Y
DUPLICATE SAMPLE RECOVERY

LAB NAME: CALIF. ANAL. LABS.

CASE NO.: 1629Y
EPA SAMPLE NO.: 1629Y-7
LAB SAMPLE NO.: S6023

DATE: 6/4/85
MATRIX: LOW WATER

UNITS: UG/L

COMPOUNDS METALS:	CONTROL LIMIT	SAMPLE(S)	DUPLICATES(D)	RPD
ELEMENTS..METHOD				
1. ALUMINIUM...P				
2. ANTIMONY....P				
3. ARSENIC.....P				
4. BARIUM.....P				
5. BERYLLIUM...P				
6. CADMIUM.....P				
7. CALCIUM.....P				
8. CHROMIUM....P				
9. COBALT.....P				
10.COPPER.....P				
11.IRON.....P				
12.LEAD.....P				
13.MAGNESIUM...P				
14.MANGANESE...P				
15.MERCURY....CV				
16.NICKEL.....P				
17.POTASSIUM...P				
18.SELENIUM....P		<5	<5	NC
19.SILVER.....P				
20.SODIUM.....P				
21.THALLIUM....F				
22.TIN.....P				
23.VANADIUM....P				
24.ZINC.....P				
25.CYANIDE.....C				
HYDRAZINE		<1	<1	NC
PERCHLORATE		0.15	0.14	6.9

COMMENTS:

Form VII

Q.C. Report No. 1629V

INSTRUMENT DETECTION LIMITS AND

LABORATORY CONTROL SAMPLE

LAB NAME CAL LABS CASE NO. 1629V

DATE _____ LCS UNITS (ug/L) mg/kg

(Circle One)

Compound	Required Detection Limits (CRDL)-ug/l	Instrument Detection Limits (IDL)-ug/l ICP/AA	Instrument Detection Limits (IDL)-ug/l Furnace	Lab Control Sample True	Lab Control Sample Found	Lab Control Sample %R
Metals:						
1. Aluminum	200	161				
2. Antimony	60	14				
3. Arsenic	10	23	4.6			
4. Barium	200	18				
5. Beryllium	5	0.6				
6. Cadmium	5	4.0				
7. Calcium	5000	427				
8. Chromium	10	2.1				
9. Cobalt	50	6.9				
10. Copper	25	1.3				
11. Iron	100	7.8				
12. Lead	5	16	3.7			
13. Magnesium	5000	368				
14. Manganese	15	1.2				
15. Mercury	0.2	0.20				
16. Nickel	40	34				
17. Potassium	5000	503				
18. Selenium	5	29	4.2	20	20	100
19. Silver	10	2.6				
20. Sodium	5000	585				
21. Thallium	10	80	4.1			
22. Tin	40	36				
23. Vanadium	50	3.5				
24. Zinc	20	3.3				
Other:						
CYANIDE		COLORIMETRIC	3.5			

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: MAY 22 1985

SUBJECT: Review of Analytical Data

FROM: Harold Takenaka, Chief
Laboratory Support Section, Environmental Services Branch, OPM (P-3-1)

TO: Paula Bisson, Acting Chief
State Programs Section, Superfund Programs Branch, TWMD (T-4-1)

Attached are comments resulting from Region 9 review of the following analytical data:

SITE: San Gabriel, CA
CASE/SAS NO.: 3912/1528Y

LABORATORY: California Analytical
ANALYSIS: Selenium, hydrazine, perchlorate

SAMPLE NO.: 1528Y-5 thru 8; 1528Y-15,16,18 thru 20;
and 1528Y-26 thru 30.
COLLECTION DATE: 2/12; 3/7; and 3/15/85

REVIEWER: F. Schuette
TELEPHONE NUMBER: FTS 454-0923
(415) 974-0923

If there are any questions, please contact the reviewer.

Attachment

cc: Kathleen Shimmin, (T-3)
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Data Audit Team (LEMSCO), EMSL-LV

REPORT ON THE EVALUATION OF THE

CASE NO. 3912/1528Y

SAN GABRIEL, CA

DATA

by

DATA MANAGEMENT TEAM

LABORATORY SUPPORT SECTION

ENVIRONMENTAL SERVICES BRANCH

U.S. ENVIRONMENTAL PROTECTION AGENCY
215 Fremont Street
San Francisco, California 94105

May 20, 1985
Date

Ferdinand J. Schuette
Reviewer
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Case No.: 3912/1528Y
Site: San Gabriel, CA
Lab: California Analytical
Date of this Report: May 20, 1985
Reviewer: F. Schuette

CONTENTS OF THIS REPORT

This report covers the following three data packages.

1) Samples 1528Y-5 through 1528Y-8;

2) Samples 1528Y-15, 1528Y-16, and 1528Y-18 through 1528Y-20; and

3) Samples 1528Y-26 through 1528Y-30.

Se, Hydrazine, Perchlorate
4 Samples

Case No.: 3912/1528Y
Site: San Gabriel, CA
Lab: California Analytical
Date of this Report: May 20, 1985
Reviewer: F. Schuette

I. INTRODUCTION

A. Four water samples, numbers 1528Y-5 through 1528Y-8, were submitted for the analyses of selenium, hydrazine, and perchlorate.

II. VALIDITY

A. Results reported for selenium in all samples are considered to be usable for limited purposes due to accuracy problems, as described below in Section III.A. Selenium may in fact be less than the detection limit, as reported, or the reported levels may underestimate the actual levels in the environmental samples because of poor analytical recovery of selenium.

B. Results reported for hydrazine in all samples are considered to be valid for all purposes.

C. Results reported for perchlorate in all samples are considered to be invalid for all purposes due to probable contamination, as described below in Section III.B. Although an objective evaluation indicates the perchlorate results to be invalid, the presence of perchlorate in the samples of other data packages in this Case suggests that perchlorate may actually be present in the environmental samples of this data package.

III. GENERAL COMMENTS

A. Accuracy, as measured by percent recoveries of analytes in matrix spike samples, meets criteria of 75-125%, except for the following:

Sample Number	Analyte	% Recovery
1528Y-6	Se	0

B. Perchlorate was measured in the field blank sample 1528Y-8 at 0.82 ppm, which is at a level equal to, or greater than, the perchlorate measured in the other three environmental samples. Therefore, the perchlorate results are considered unacceptable due to probable contamination.

C. All other quality control criteria are met and are considered acceptable.

Case No. 3912/1528Y
Site San Gabriel, CA
Lab California Analytical
Type of Analysis Selenium, Hydrazine, Perchlorate
Units of Concentration * See below
Date Samples Collected 02/12/85
Date Samples Rec'd at Lab 02/14/85
Date Data Package Rec'd at Region 9 05/14/85
Date of this Report 05/20/85
Reviewer F. Schuette

MAXIMUM HOLDING TIMES, ORGANICS	Contract
Volatile Organics, Water	7 days
Volatile Organics, Soil	10 days
ABN Extraction, Water	5 days
ABN Extraction, Soil	10 days
ABN Analysis	40 days
Pesticide Extraction, Water	5 days
Pesticide Extraction, Soil	10 days
Pesticide Analysis	40 days

	Selenium		Hydrazine		Perchlorate	
Sample #						
1528Y-5 (1)	4.2U	P	1U	V	0.18	X
1528Y-6	4.2U	↓	1U	↓	0.85	↓
1528Y-7 (1)	4.2U	↓	1U	↓	0.17	↓
1528Y-8 (2)	4.2U	↓	1U	↓	0.82	↓
Units of Concentration	µg/L		ppm		ppm	
Detection Limits	4.2		1		0.02	

U = Indicates that the analyte was analyzed for but was not detected; repor
limit value (e.g., 10U).
(1) = Samples 1528Y-5 and 1528Y-7 are field duplicate samples.
(2) = Sample 1528Y-8 is the field blank sample.

MAXIMUM HOLDING TIMES, INORGANICS	Contract	Actual
Cyanide	14 days	days
Mercury	30 days	days
Other Metals	6 mos.	28 days

VALIDITY OF DATA

V - Indicates value reported is considered valid for all purposes.
X - Indicates value reported is considered invalid for all purposes
P - Indicates value reported is considered usable for limited purposes.

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Se, Hydrazine, Perchlorate
5 Samples

Case No.: 3912/1528Y
Site: San Gabriel, CA
Lab: California Analytical
Date of this Report: May 20, 1985
Reviewer: F. Schuette

I. INTRODUCTION

A. Five water samples, numbers 1528Y-15, 1528Y-16, and 1528Y-18 through 1528Y-20, were submitted for the analyses of selenium, hydrazine, and perchlorate.

II. VALIDITY

A. Results reported for selenium in all samples are considered to be usable for limited purposes due to accuracy problems, as described below in Section III.A. Selenium may in fact be less than the detection limit, as reported, or the reported levels may underestimate the actual levels in the environmental samples because of poor analytical recovery of selenium.

B. Results reported for hydrazine and perchlorate in all samples are considered to be valid for all purposes.

III. GENERAL COMMENTS

A. Accuracy, as measured by percent recoveries of analytes in matrix spike samples, meets criteria of 75-125%, except for the following:

Sample Number	Analyte	% Recovery
1528Y-16	Se	48

B. All other quality control criteria are met and are considered acceptable.

Case No. 3912 /1528Y
Site San Gabriel, CA
Lab CAL
Type of Analysis Selenium, Hydrazine, Perchlorate
Units of Concentration *See below
Date Samples Collected 03/07/85
Date Samples Rec'd at Lab 03/08/85
Date Data Package Rec'd at Region 9 05/14/85
Date of this Report 05/20/85
Reviewer F. Schuette

MAXIMUM HOLDING TIMES, ORGANICS	Contr
Volatile Organics, Water	7 d
Volatile Organics, Soil	10 d
ABN Extraction, Water	5 d
ABN Extraction, Soil	10 d
ABN Analysis	40 d
Pesticide Extraction, Water	5 d
Pesticide Extraction, Soil	10 d
Pesticide Analysis	40 d

Sample #	Selenium		Hydrazine		Perchlorate	
1528Y-15	4.2U	P	1U	V	0.68	V
1528Y-16(1)	4.2U		1U		0.38	
1528Y-18	.25U*		1U		0.81	
1528Y-19(1)	4.2U		1U		0.38	
1528Y-20(2)	4.2U	↓	1U	↓	0.05U	↓
Units of Concentration	µg/L		ppm		ppm	
Detection Limits	4.2		1		0.05	

* = A 1 to 5 dilution of the sample

U = Indicates that the analyte was analyzed for but was not detected; t limit value (e.g., 10U).
(1) = Samples 1528Y-16 and 1528Y-19 are field duplicate samples.
(2) = Sample 1528Y-20 is the field blank sample.

MAXIMUM HOLDING TIMES, INORGANICS	Contract	Actual
Cyanide	14 days	___ days
Mercury	30 days	___ days
Other Metals	6 mos.	12 days

VALIDITY OF DATA

V - Indicates value reported is considered valid for all purposes.
X - Indicates value reported is considered invalid for all purposes
P - Indicates value reported is considered usable for limited purposes.

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Se, Hydrazine, Perchlorate
5 Samples

Case No.: 3912/1528Y
Site: San Gabriel, CA
Lab: California Analytical
Date of this Report: May 20, 1985
Reviewer: F. Schuette

I. INTRODUCTION

A. Five water samples, numbers 1528Y-26 through 1528Y-30, were submitted for the analyses of selenium, hydrazine, and perchlorate.

II. VALIDITY

A. Results reported for selenium in all samples are considered to be usable for limited purposes due to accuracy problems, as described below in Section III.A. Selenium may in fact be less than the detection limit, as reported, or the reported levels may underestimate the actual levels in the environmental samples because of poor analytical recovery of selenium.

B. Results reported for hydrazine in all samples are considered to be valid for all purposes.

C. Results reported for perchlorate are considered to be usable for limited purposes due to probable contamination as described below in Section III.B.

III. GENERAL COMMENTS

A. Accuracy, as measured by percent recoveries of analytes in matrix spike samples, meets criteria of 75-125%, except for the following:

Sample Number	Analyte	% Recovery
1528Y-27	Se	30

B. Perchlorate was measured in the field blank sample 1528Y-29 at 0.42 ppm, which is at a level of approximately one-half to one-fifth the perchlorate levels measured in the environmental samples. Therefore, the perchlorate levels in these samples appear, in part, to be due to probable contamination.

C. All other quality control criteria are met and are considered acceptable.

Case No. 3912/1528Y
Site San Gabriel, CA
Lab CAL
Type of Analysis Selenium, Hydrazine, Perchlorate
Units of Concentration * See below
Date Samples Collected 03/14/85
Date Samples Rec'd at Lab 03/15/85
Date Data Package Rec'd at Region 9 05/14/85
Date of this Report 05/20/85
Reviewer F. Schuette

MAXIMUM HOLDING TIMES, ORGANICS	Contrac
Volatile Organics, Water	7 day
Volatile Organics, Soil	10 day
ABN Extraction, Water	5 day
ABN Extraction, Soil	10 day
ABN Analysis	40 day
Pesticide Extraction, Water	5 day
Pesticide Extraction, Soil	10 day
Pesticide Analysis	40 day

	Selenium		Hydrazine		Perchlorate	
Sample #						
1528Y-26 (1)	4.2U	P	1U	V	1.8	P
1528Y-27	4.2U		1U		1	
1528Y-28 (1)	25U*		1U		2.2	
1528Y-29 (2)	4.2U		1U		0.42	
1528Y-30	25U*	↓	1U	↓	1.8	↓
Units of Concentration	µg/L		ppm		ppm	
Detection Limits	4.2		1		0.02	

* = A 1 to 5 dilution of the sample.

U = Indicates that the analyte was analyzed for but was not detected, repo: limit value (e.g., 10U).
(1) = Samples 1528Y-26 and 1528Y-28 are field duplicate samples.
(2) = Sample 1528Y-29 is the field blank sample.

Actual	MAXIMUM HOLDING TIMES, INORGANICS	Contract	Actual
days	Cyanide	14 days	days
days	Mercury	30 days	days
days	Other Metals	6 mos.	25 days
days			
days			
days			
days			
days			

VALIDITY OF DATA

V - Indicates value reported is considered valid for all purposes.
X - Indicates value reported is considered invalid for all purposes
P - Indicates value reported is considered usable for limited purposes.

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KEY TO IDENTIFICATION OF WELLS SAMPLED FOR PERCHLORATE ION
AS IDENTIFIED IN DATA QUALITY ASSURANCE REVIEW REPORTS

SAMPLE NO.	WELL OWNER	WELL OWNER DESIGNATION	RECORDATION NUMBER
1528Y-5	Valley County Water District	N. Maine E.	1900027
1528Y 6	Valley County Water District	Morada	1900029
1528Y-7	Duplicate of 1528Y-5		
1528Y-8	Field Blank		
1528Y-15	City of Azusa	#5	1902537
1528Y-16	Azusa Valley Water Company	#4	1902115
1528Y-18	Azusa Valley Water Company	#7	1902425
1528Y-19	Duplicate of 1528Y-16		
1528Y-20	Field Blank		
1528Y-26	City of Glendora	#3G	1901525
1528Y-27	City of Glendora	#7G	1900831
1528Y-28	Duplicate of 1528Y-26		
1528Y-29	Field Blank		
1528Y-30	Azusa Valley Water Company	#6	1902117
1629Y-7	Miller Brewing	#2	8000076
1629Y-8	City of Azusa	#4	1902536
1629Y-9	Transit Mix	#2	1900038
1629Y-10	County of Los Angeles	#1SF	8000070
1629Y-11	Duplicate of 1629Y-7		
1629Y-12	Field Blank		
1629Y-16	Covina Irrigating Company	Contract	1900881
1629Y-17	Duplicate of 1629Y-16		
1629Y-18	Field Blank		
1629Y-22	Valley County Water District	Lante	8000060
1629Y-23	Duplicate of 1629Y-22		
1629Y-24	Field Blank		